

FIG. 1

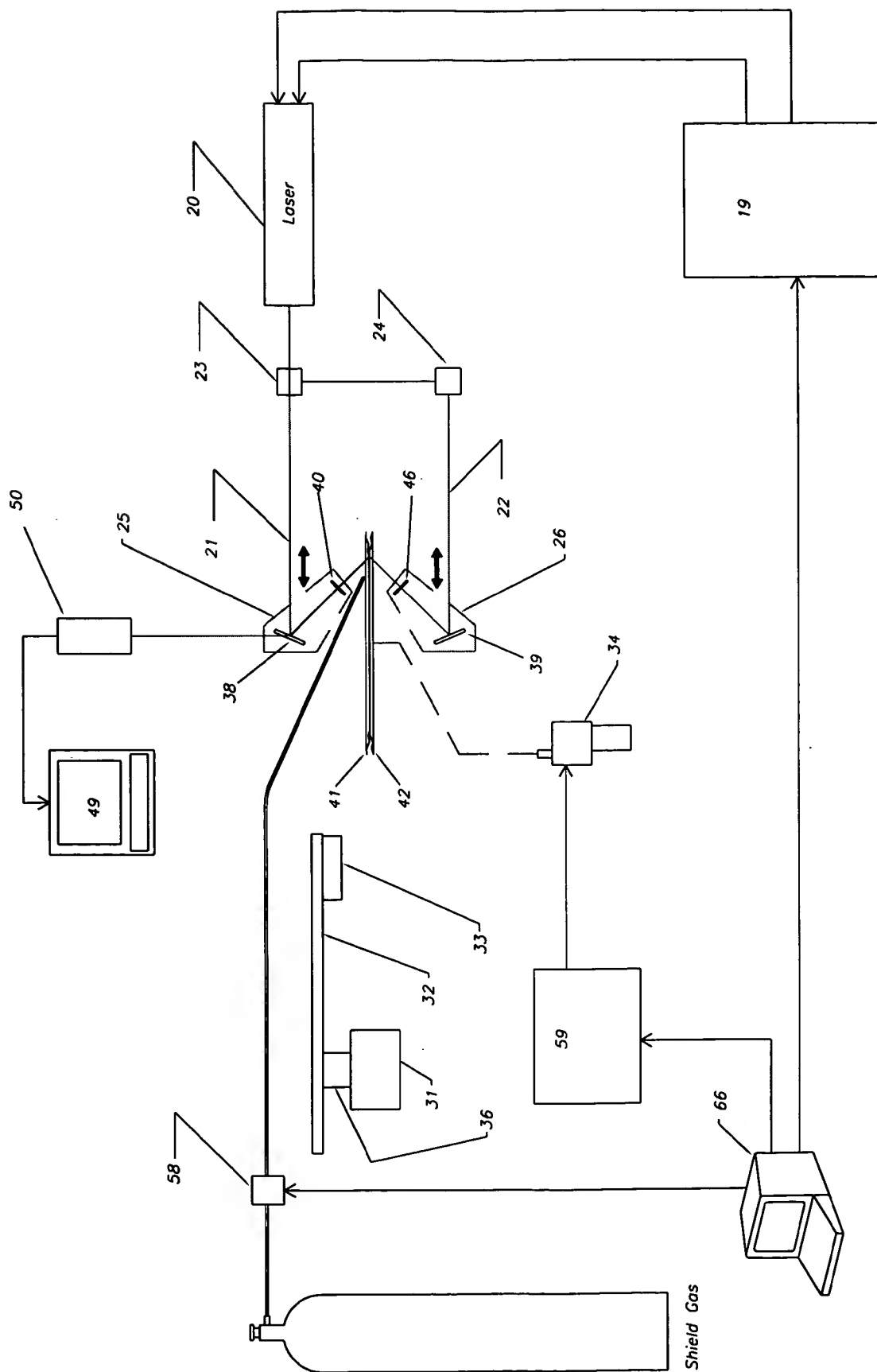


FIG 2

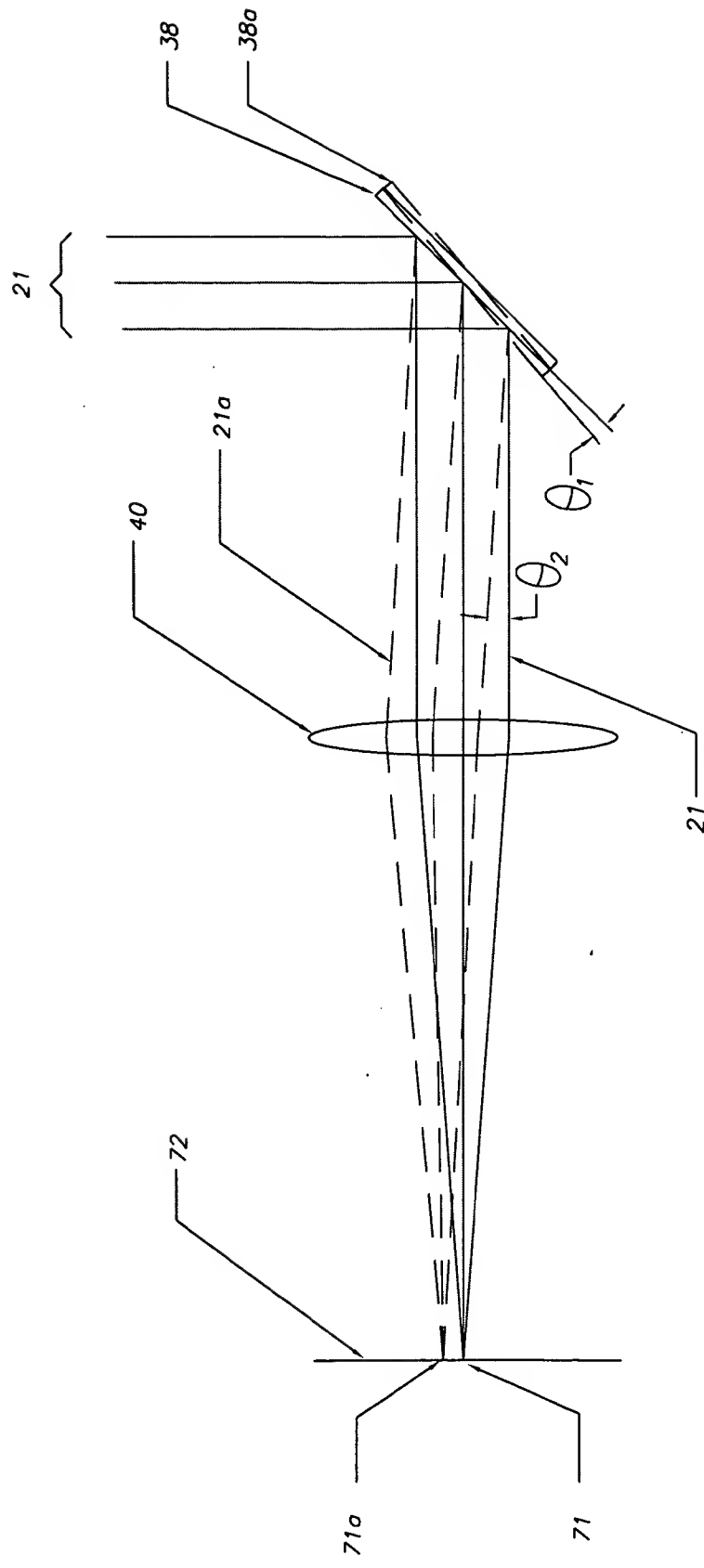


FIG 3

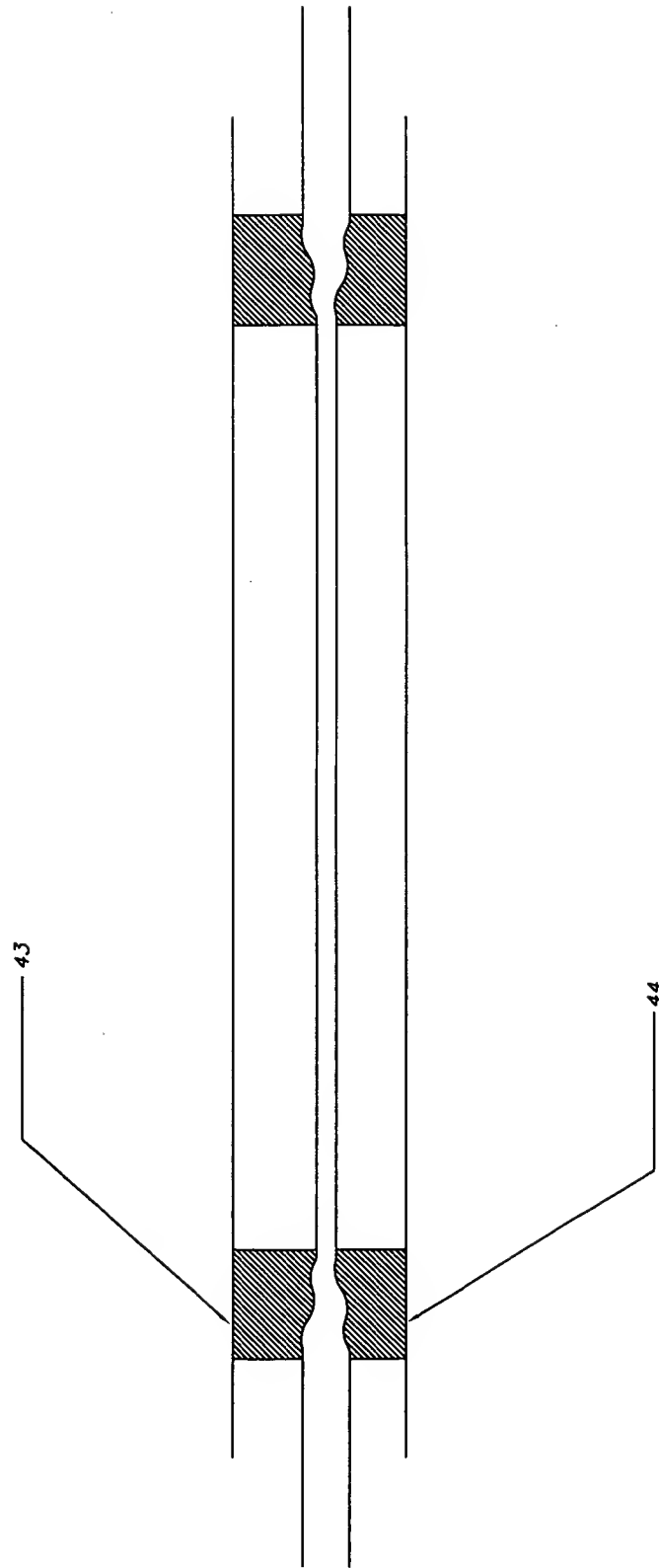


FIG 4

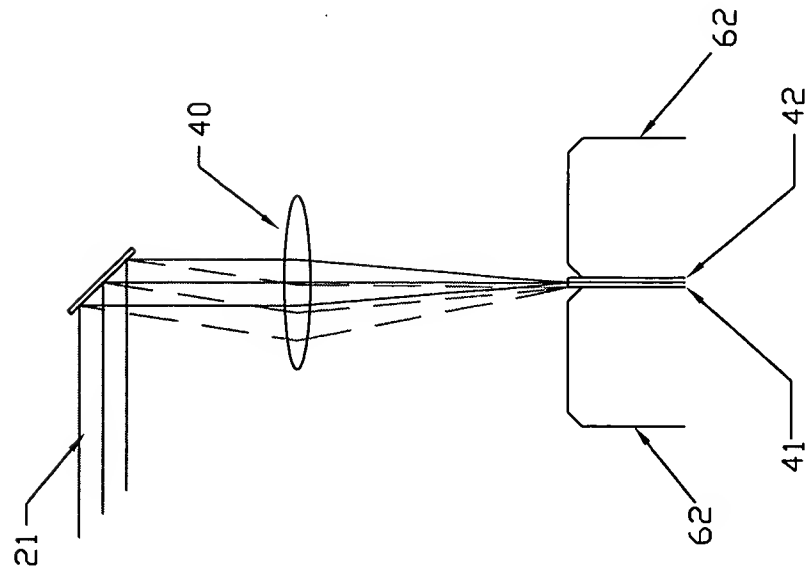


FIG 5A

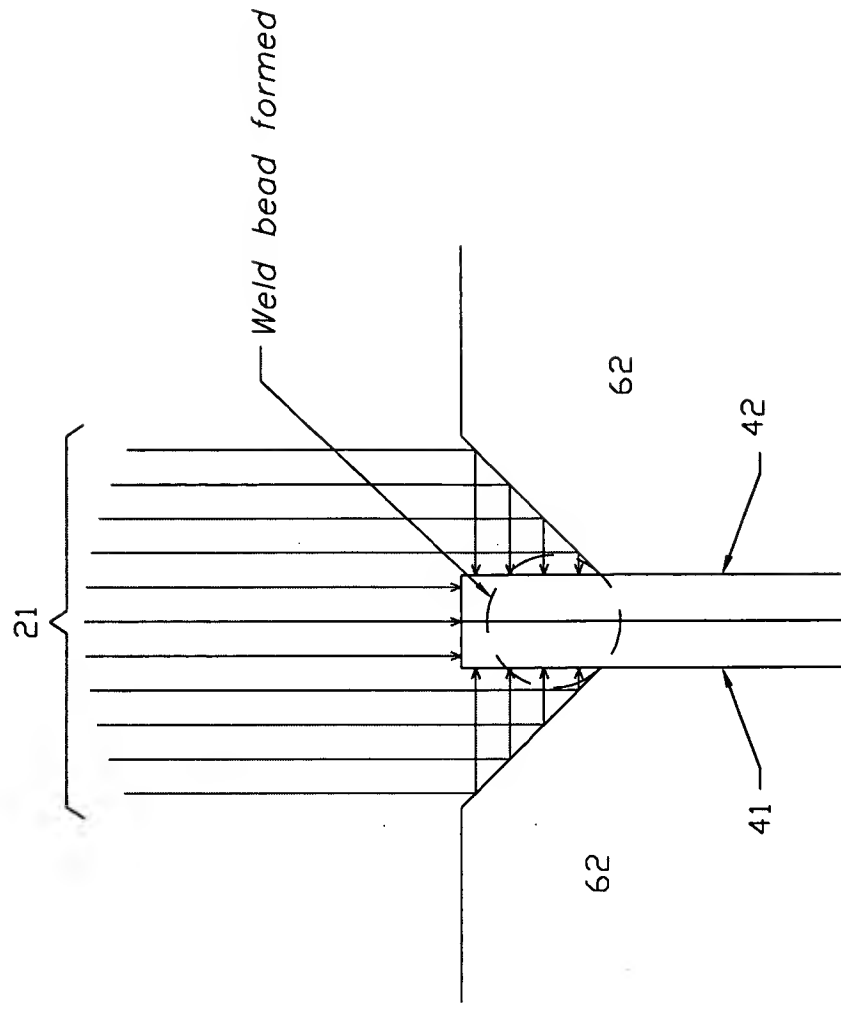


Fig 5B

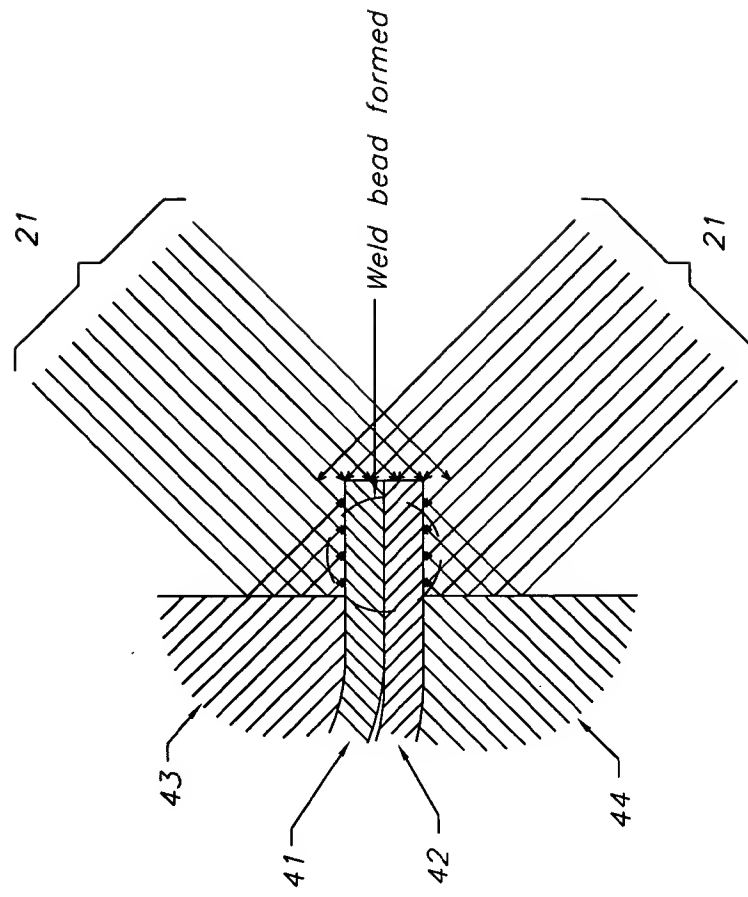


FIG. 6A

FIG. 6B

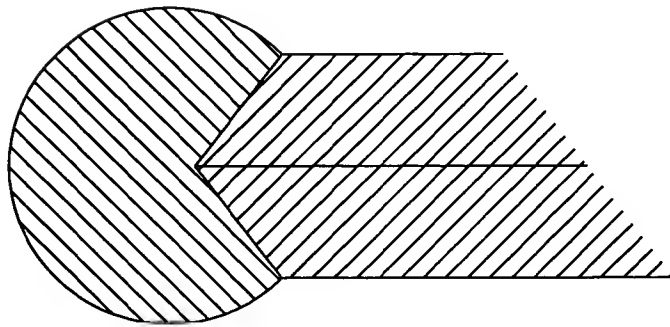


Fig. 7A

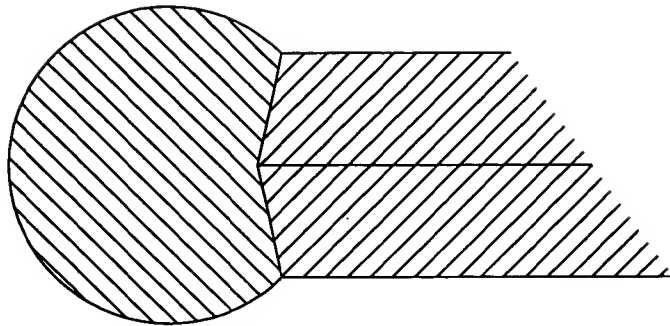


Fig. 7B

Patented May 5, 1993

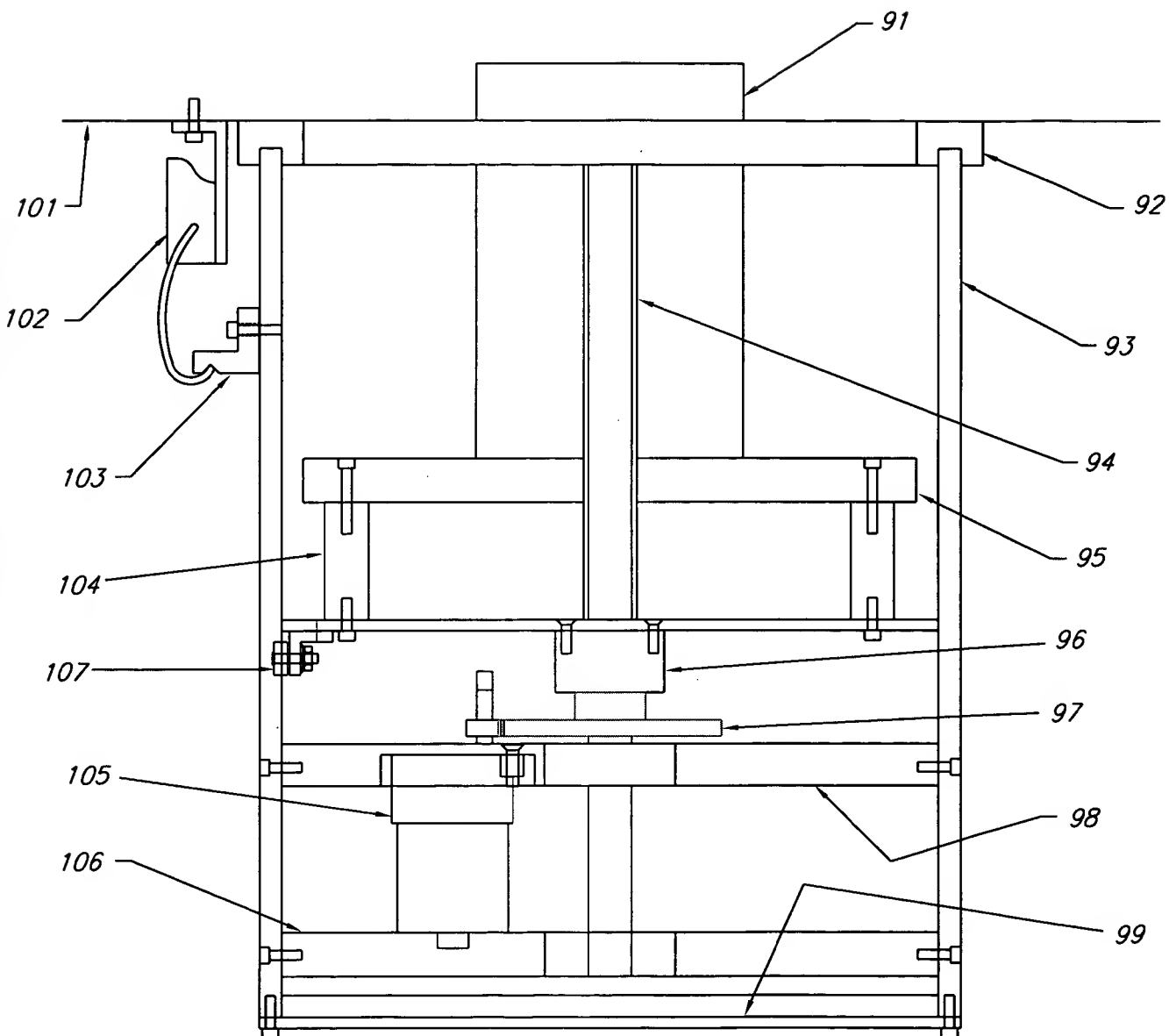


Fig. 8

FIG. 9B

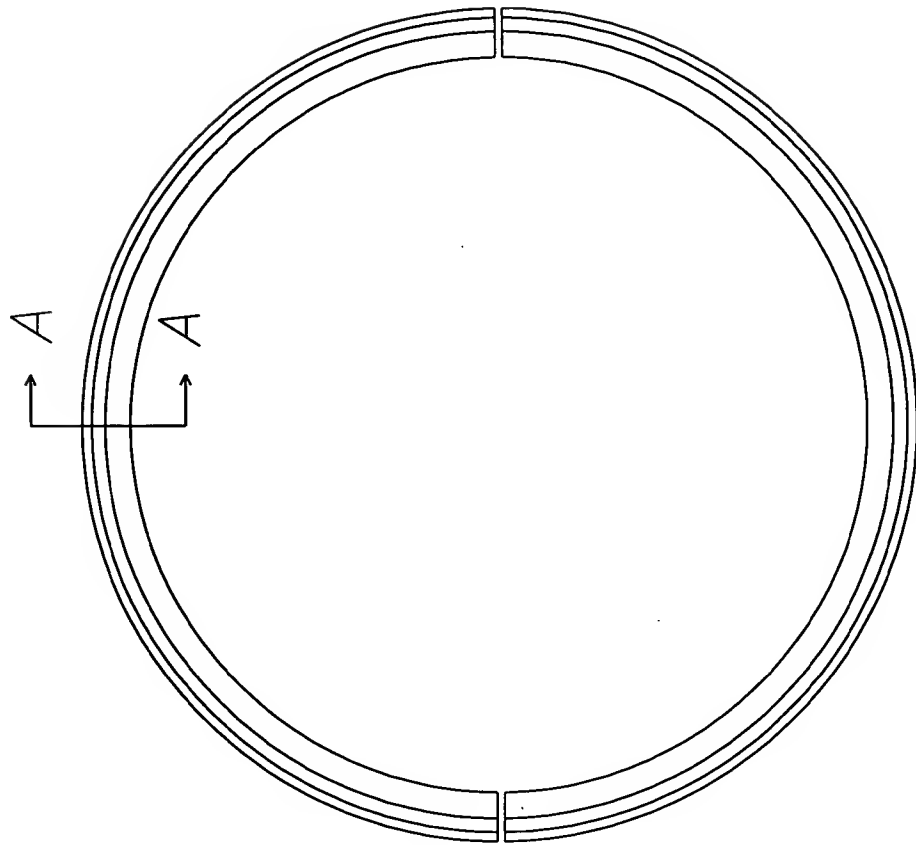
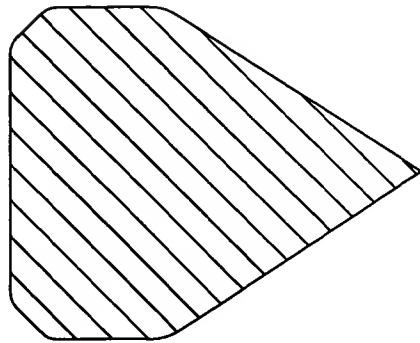


FIG 9B



Section A-A

FIG 9A

*Molten beads may not run together,
forming incomplete weld*

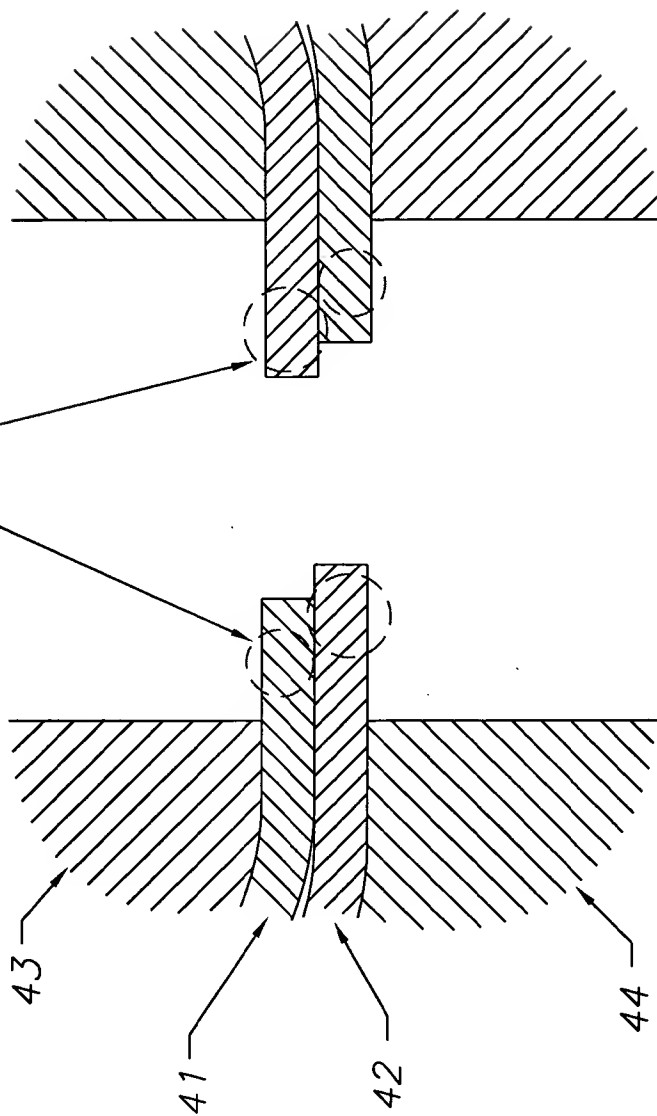
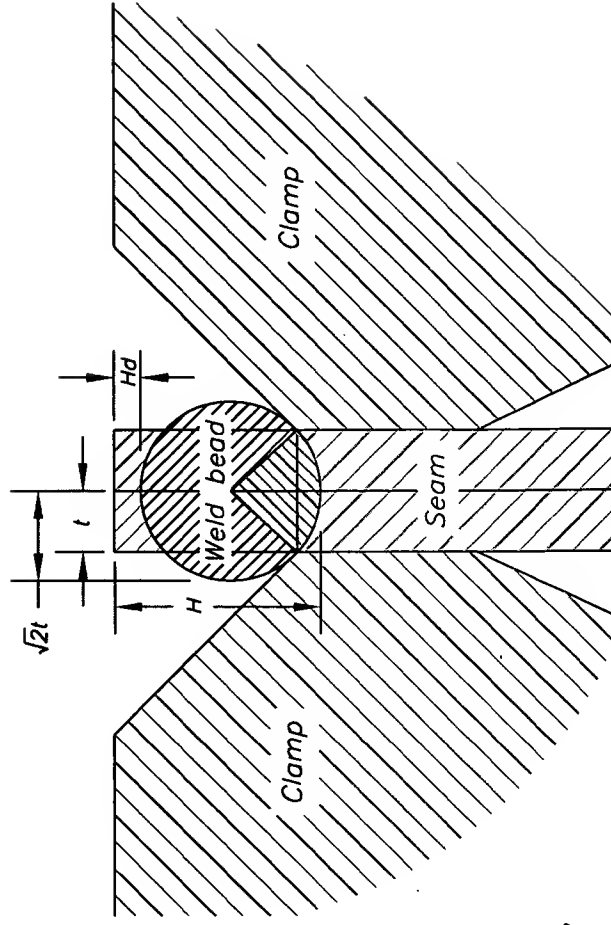


FIG 10



Area of Circle
 $A_c = 2\pi * t^2$

Area of Triangle
 $A_t = t^2$

Area of Pie
 $A_p = 1/4 A_c - A_t$
 $= 1/2 \pi * t^2 - t^2$

Welded area ($A_c - A_p$)
 $A_w = 2\pi * t^2 - 1/2 \pi * t^2 + t^2$

$$\begin{aligned} \therefore H * 2t &= A_w \\ H &= \frac{3/2 \pi * t^2 + t^2}{2t} \\ H &= \left(\frac{3}{4} \pi + 1/2 \right) t \\ H &= 2.856t \end{aligned}$$

$$\begin{aligned} Hd + \sqrt{2} * t + t &= H \\ Hd &= H - \sqrt{2} * t - t \\ Hd &= 0.441t \end{aligned}$$

Fig. 11